



FOREST PEST MANAGEMENT

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BIOLOGICAL EVALUATION OF FOREST DISEASE SITUATIONS ON THE CORNING RANGER DISTRICT, MENDOCINO NATIONAL FOREST

PSM FOREST AND RANGE
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ABSTRACT

Observations made on four pest problems on the Corning Ranger District, Mendocino National Forest are reported. At the Onion Sale, unthrifty ponderosa pines exhibited crown symptoms that indicate a residual effect of the 1975-77 drought. Removal of these trees during the sale would benefit the stand. In the proposed Whiskey Sale, two annosus root disease centers existed in the white fir. The effectiveness of cutting options and borax treatment in controlling this root disease are discussed. Locations of black stain root disease centers in Douglas-fir observed on the District are shown.

INTRODUCTION

On July 15 I met with Van Johnson and Tom Henry (Supervisor's Office and District Office, respectively) to view several disease situations on the Corning Ranger District, Mendocino National Forest.

The first stop was at the Onion Sale where a commercial thinning is planned. Ponderosa pine on the site exhibited various levels of crown decline. The decline symptoms included leader and branch mortality, loss of whorls of older needles, yellowing of needles, and shortening of new needles. Individuals with these crown symptoms varied in size and were scattered throughout the stand. No significant insects or disease organisms were observed in the affected trees.

These trees exhibited somewhat typical drought stress symptoms. It is possible that these survivors of the 1975-77 drought are still exhibiting stress symptoms because of slow recovery. Removal of these adversely affected trees during the thinning will satisfy several objectives. First,

slow-growing individuals will be removed from the stand. Second, these trees are highly susceptible to bark beetle attacks and, therefore, their removal would reduce the risk of a small bark beetle infestation. Third, their removal would reduce competition in the stand by reducing the stocking level.

The second stop was at the Whiskey Sale to examine windthrow and possible annosus root disease centers in white fir. Fruiting bodies of Fomes annosus were found in the windthrown root systems and old stumps of white fir.

Two control methods were discussed. The first was the removal of all white fir for one chain beyond the above-ground margin of the center, and revegetating the center with pine. This may be effective in limiting the further spread of the root disease into the surrounding white fir stand. The difficulty with the method is that the above-ground margin of the disease center is probably not the limit of the spread of the fungus. Therefore, a one-chain buffer surrounding the opening may not be sufficient to stop the fungus. However, if trees are not removed in the buffer there will almost certainly be underground spread of the fungus to surrounding white firs. Following harvest, the residual fir stumps around the disease center should be examined for heartrot. If stumps more than half the distance across the buffer strip are decayed, then surrounding residual white firs will likely eventually become infected. However, this may take 10 to 20 years, when re-entry may be anticipated. Planting the disease center and buffer strip to pine will be effective in maintaining productivity of the site.

An alternative to a buffer strip would be to patch cut the fir, thereby removing the susceptible host in the vicinity of the annosus disease center. The clear cut areas could then be planted to non-fir species, maintaining productivity and providing good conditions for the new growing stock.

The second control measure discussed was whether the use of borax as a stump treatment would be effective in reducing impact of the disease. Borax is strictly a preventative chemical reducing the risk of new infections. Application to infected stumps will have no effect. In this particular stand the limited amount of F. annosus does not appear to merit the investment of borax treatment.

In addition to the preceding stops, two additional brief visits were made. The first was at a small black stain root disease center in Douglas-fir. During the week, roadside observations were made for this disease in the northern part of the Forest. A number of identifications were made as indicated on the enclosed maps. However, the number and size of these centers does not indicate a problem at the present time.

The last stop was to discuss the blister rust situation on sugar pine on the Forest. No definitive conclusions were developed; however, Van Johnson stated the desire for a discussion/training session between Forest and FPM personnel later this fall. We would welcome such further communication.



